

PERSONAL DATA



Name : DR. NAWANOL THEERA-AMPORNPUNT
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PUBLICATIONS SUMMARY

7

International Journal

11

International. Proceedings

Total Publications: 18

EDUCATION

| | | |
|-----------------|------|--|
| Ph.D. Degree | 2017 | Ph.D. in Computer Science, Purdue University |
| Bachelor Degree | 2009 | B.S. in Computer Science, Carnegie Mellon University |

RESEARCH INTERESTS

Computer Vision

Image Recognition

Machine Learning

RESEARCH PROJECTS

Early Bread Mold Detection Through Microscopic Images
Automatic Thai Food Recognition

Assistant Professor - 2021

Lecturer - 2017

INTERNATIONAL JOURNAL ARTICLES

N. Theera-Ampornpant and P. Treepong, "Visual Food Ingredient Prediction Using Deep Learning with Direct F-Score Optimization," *Foods*, vol. 14, no. 24, Dec. 2025, Art. no. 4269, doi: 10.3390/foods14244269.

📄 <https://www.mdpi.com/2304-8158/14/24/4269>

📅 12/2025 📌 F-score optimization, loss function, Deep learning, food ingredient prediction, image classification, cost-sensitive learning

N. Theera-Ampornpant and P. Treepong, "KediNet: a hybrid deep learning architecture for Thai dessert recognition," *IEEE Access*, vol. 13, pp. 86935–86948, 2025, doi: 10.1109/ACCESS.2025.3569435.

📄 <https://ieeexplore.ieee.org/document/11002498>

📅 5/2025 📌 Deep learning, food recognition, image classification, dessert

N. Theera-Ampornpant and P. Treepong, "Thai Food Recognition using Deep Learning with Cyclical Learning Rates," *IEEE Access*, vol. 12, pp. 174204–174221, 2024, doi: 10.1109/ACCESS.2024.3503672.

📄 <https://ieeexplore.ieee.org/document/10759670>

📅 11/2024 📌 Deep learning, food dataset, food recognition, image classification, learning rate

P. Treepong, N. Theera-Ampornpant, "Early Bread Mold Detection Through Microscopic Images Using Convolutional Neural Network," *Current Research in Food Science*, vol. 7, Aug. 2023, Art. no. 100574.

📄 <https://www.sciencedirect.com/science/article/pii/S2665927123001429>

📅 8/2023 📌 image classification, Microbiology, food safety, food computing

N. Theera-Ampornpant, P. Treepong, "Optimizing Hyperparameters for Thai Cuisine Recognition via Convolutional Neural Networks," *Traitement du Signal*, vol. 40, no. 3, pp. 1187–1193, 2023.

📄 <https://iieta.org/download/file/ffd/100033>

📅 6/2023 📌 food computing, Image Recognition, Object Recognition, Thai Food

Chih-Hao Fang, Nawanol Theera-Ampornpant, Michael A. Roth, Ananth Grama, and Somali Chaterji. "AIKYATAN: Mapping Distal Regulatory Elements using Convolutional Learning on GPU," *BMC Bioinformatics*, Volume 20, December 2019.

📄 <https://bmcbioinformatics.biomedcentral.com/articles/10.1186/s12859-019-3049-1>

📅 12/2019 📌 Enhancers, Epigenomics, Graphics processing units (GPU)

Seong Gon Kim, Nawanol Theera-Ampornpant, Chih-Hao Fang, Mrudul Harwani, Ananth Grama and Somali Chaterji. "Opening up the blackbox: an interpretable deep neural network-based classifier for cell-type specific enhancer predictions," *BMC Systems Biology*, Volume 10, Number 2, pp. 243–258, August 2016.

📄 <https://bmcsystbiol.biomedcentral.com/>

📅 8/2016 📌 Genomic enhancers, Enhancer prediction, Deep neural networks (DNNs), Histone modifications, CHIP-seq, Cis-regulatory modules (CRMs), Interpretability of blackbox models

INTERNATIONAL PROCEEDINGS

Nawanol Theera-Ampornpant, Shikhar Suryavansh, Sameer Manchanda, Rajesh Panta, Kaustubh Joshi, Mostafa Ammar, Mung Chiang, Saurabh Bagchi. "AppStreamer: Reducing Storage Requirements of Mobile Games through Predictive Streaming," In *proceedings of the International Conference on Embedded Wireless Systems and Networks (EWSN) 2020*, Lyon, France, 17–19 February 2020.

📄 <https://dl.acm.org/doi/proceedings/10.5555/3400306>

📅 2/2020 📌 Mobile networks, Embedded System

Kwankamon Dittakan, Nawanol Theera-Ampornpunt, and Pattaporn Boodliam. "Non-destructive Grading of Pattavia Pineapple using Texture Analysis," In *proceedings of the 21st International Symposium on Wireless Personal Multimedia Communications (WPMC-2018)*, Chiang Rai, Thailand, 25–28 November 2018.

🔗 <http://web2.mfu.ac.th/conferences/wpmc2018/>

📅 11/2018 📌 Pineapple Mining, Pineapple Grading, Image Mining, Image Analysis, Agriculture Informatics

Kwankamon Dittakan and Nawanol Theera-Ampornpunt. "Pum-Riang Thai Silk Pattern Classification using Texture Analysis." In *proceedings of the 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI 2018)*, Nanjing, China, 28–31 August 2018.

🔗 <http://cse.seu.edu.cn/pricai18/>

📅 8/2018 📌 Image mining, Texture analysis, Image processing

Heng Zhang, Nawanol Theera-Ampornpunt, He Wang, Saurabh Bagchi, and Rajesh Panta. "Sense-Aid: A Framework for Enabling Network as a Service for Participatory Sensing," In *Middleware 2017*, Las Vegas, Nevada, USA, 11–15 December 2017.

🔗 <http://2017.middleware-conference.org/>

📅 12/2017 📌 Network architectures, Network services, Network experimentation

Kwankamon Dittakan, Nawanol Theera-Ampornpunt, Waraphon Witthayarat, Sararat Hinnoy, Supawit Klaiwan, and Thunyatorn Pratheep. "Banana Cultivar Classification using Scale Invariant Shape Analysis," In *proceedings of the 2nd International Conference on Information Technology (InCIT 2017)*, Nakhon Pathom, Thailand, 2–3 November 2017.

🔗 <https://incit2017.ict.mahidol.ac.th/>

📅 11/2017 📌 object recognition, banana cultivar, shape analysis

Nawanol Theera-Ampornpunt, Tarun Mangla, Saurabh Bagchi, Rajesh Panta, Kaustubh Joshi, Mostafa Ammar, and Ellen Zegura. "Tango: Toward a More Reliable Mobile Streaming through Cooperation between Cellular Network and Mobile Devices," In *proceedings of the 35th Symposium on Reliable Distributed Systems (SRDS 2016)*, Budapest, Hungary, 26–29 September 2016.

🔗 <http://srd2016.inf.mit.bme.hu/>

📅 9/2016 📌 Multimedia streaming, cellular network, reliability

Tarun Mangla, Nawanol Theera-Ampornpunt, Mostafa Ammar, Ellen Zegura, and Saurabh Bagchi. "Video Through a Crystal Ball: Effect of Bandwidth Prediction Quality on Adaptive Streaming in Mobile Environments," In *proceedings of the 8th ACM Workshop on Mobile Video (MoVid 2016)*, Klagenfurt am Wörthersee, Austria, 10–13 May 2016.

🔗 <https://mmsys2016.itec.aau.at/movid/>

📅 5/2016 📌 Multimedia streaming, Network performance analysis, Mobile networks

Nawanol Theera-Ampornpunt, Seong Gon Kim, Asish Ghoshal, Saurabh Bagchi, Ananth Grama, and Somali Chaterji. "Fast Training on Large Genomics Data using Distributed Support Vector Machines," In *proceedings of the 8th International Conference on Communication Systems and Networks (COMSNETS 2016)*, Bangalore, India, 5–9 January 2016.

🔗 <https://www.comsnets.org/archive/2016/>

📅 1/2016 📌 machine learning, classifier training, computational genomics, computational cost, network cost

Seong Gon Kim, Nawanol Theera-Ampornpunt, Ananth Grama, and Somali Chaterji. "Interpretable Deep Neural Networks for Enhancer Prediction," In *proceedings of the 2015 IEEE International Conference on BioInformation and BioMedicine (BIBM 2015)*, Washington, DC, 9–12 November 2015.

🔗 <https://cci.drexel.edu/ieebibm/bibm2015/>

📅 11/2015 📌 Enhancer predictions, deep neural networks, histone modification signatures, DNN interpretability

Nawanol Theera-Ampornpunt, Saurabh Bagchi, Kaustubh Joshi, and Rajesh Panta. "Using Big Data for More Dependability: A Cellular Network Tale," In *proceedings of 9th Workshop on Hot Topics in Dependable Systems (HotDep 2013)*, Farmington, Pennsylvania, 3 November 2013.

🔗 <http://sigops.org/sosp/sosp13/hotdep.html>

📅 11/2013 📌 reliability, availability, serviceability

Ignacio Laguna, Subrata Mitra, Fahad Arshad, Nawanol Theera-Ampornpunt, Zongyang Zhu, Saurabh Bagchi,

Samuel Midkiff, Mike Kistler and Ahmed Gheith. **Automatic Problem Localization in Distributed Applications via Multi-dimensional Metric Profiling**. In *proceedings of the 32nd International Symposium on Reliable Distributed Systems (SRDS 2013)*, Braga, Portugal, 30 September – 3 October 2013.

📄 <http://slds.di.uminho.pt/>

📅 9/2013 🏷️ debugging aids, tracing, diagnostics, performance metrics

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